Copy of Petition #14 (10/14/03) and Status letter of 3/31/04

BEYER WEAVER & THOMAS, LLP
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FACSIMILE COVER SHEET

November 25, 2003

PLEASE DELIVER TO EXAMINER IMMEDIATELY

Receiver:	**Examiner Dustin Nguyen** **USPTO**
TEL #:	703-305-5321
FAX # :	**703-872-9306**
Sender:	Leslie Russell, Patent Secretary for: Haruo Yawata
Re:	U.S Patent Application Entitled: ***NETWORK TRAFFIC SHAPING USING TIME-BASED QUES*** Inventor(s): Kartik S. Chandran Application No.: 09/276,917 Filed: March 26, 1999 Our File No.: CISCP100

2A29
215P

No Response Necessary
11/5/04

Pages Including Cover Sheet(s): 15

MESSAGE:

Dear Examiner Nguyen:

Please let us know if you require anything further. Thank you.

Leslie Russell for:
Haruo Yawata

Docket #	CISCP100	By:	HY/jlf	Date of this mailing:	October 10, 2003
Appl'n #:	09/276,917	Filing Date:	March 26, 1999		
Inv(s)	Kartik S. Chandran				
Title:	NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES				

The following have been received in the U.S. Patent Office on the date stamped hereon:

Item	*Description*	*# Pgs*
1.	Request to Have Correspondence Deemed to Have Been Timely Filed w/cert of mailing	01
2.	Statement Attesting to Mailing of PTO Correspondence w/cert of mailing	01
3.	"copy" of Amendment Transmittal w/cert of mailing (dated April 17, 2003)	01
4.	"copy of" Amendment A w/cert of mailing and appendix of pending claims and marked up version Mailing date (April 17, 2003)	08
5.	Grant of Limited Recognition of Haruo Yawata under 37 CFR 10.9(b)	01
6.	Copy of "original" postcard dated April 17, 2003 mailed with Amendment of April 17, 2003	01
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL

In re application of: Chandran, et al.

Application No.: 09/276,917

Filed: March 26, 1999

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

Attorney Docket No.: CISCP100/1156

Examiner: NGUYEN, DUSTIN

Group: 2155

STATEMENT ATTESTING TO MAILING OF PTO CORRESPONDENCE UNDER 37 CFR §1.8(a)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Leslie Russell state, based on my personal knowledge, that I mailed on April 17, 2003 the original of the attached copy of the Amendment Transmittal and Amendment A correspondence with Certificate of Mailing by first class mail, with sufficient postage, in an envelope addressed to the Commissioner of Patents, Washington, D.C. 20231.

I declare that all statements made herein of my own knowledge are true; that all statements made on the information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements are punishable by fine or imprisonment, or both under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 10/10/03

By: Leslie Russell

Leslie Russell

BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE
UNITED STATE PATENT AND TRADEMARK OFFICE

LIMITED RECOGNITION UNDER 37 CFR § 10.9(b)

Mr. Haruo Yawata is hereby given limited recognition under 37 CFR §10.9(b) as an employee of Beyer Weaver & Thomas, LLP. to prepare and prosecute patent applications wherein the patent applicant is the client of Beyer Weaver & Thomas, LLP., and the attorney or agent of record in the applications is a registered practitioner who is a member of Beyer Weaver & Thomas, LLP. This limited recognition shall expire on the date appearing below, or when whichever of the following events first occurs prior to the date appearing below: (i) Mr. Haruo Yawata ceases to lawfully reside in the United States, (ii) Mr. Haruo Yawata's employment with Beyer Weaver & Thomas, LLP. ceases or is terminated, or (iii) Mr. Haruo Yawata ceases to remain or reside in the United States on an H-1B1 visa.

This document constitutes proof of such recognition. The original of this document is on file in the Office of Enrollment and Discipline of the U.S. Patent and Trademark Office.

Expires: November 6, 2003

Harry Moatz,
Director of Enrollment and Discipline

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chandran, et al.

Application No.: 09/276,917

Filed: March 26, 1999

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

Attorney Docket No.: CISCP100/1156

Examiner: NGUYEN, DUSTIN

Group: 2155

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on October 10, 2003.

Signed: Joyce L. Ferreira

Joyce L. Ferreira

REQUEST TO HAVE CORRESPONDENCE DEEMED TO HAVE BEEN TIMELY FILED – 37 CFR 1.8(b)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Please find attached a copy of the Amendment Transmittal and Amendment A, as well as a copy of the "original" postcard mailed by certificate of mailing on April 17, 2003. It was discovered by a routine status check by the Examiner that a response to his office action dated January 28, 2003 had not been responded to. It was then discovered that the attached Amendment Transmittal and Amendment A was not received by the U.S. Patent Office since the original postcard was not returned and stamped by the U.S. Patent Office mailroom. Enclosed is a Statement Attesting to Mailing of PTO Correspondence Under 37 CFR §1.8(b)(3) by the person who signed the original Certificate of Mailing.

It is therefore requested that the attached documents be entered and the application proceed with prosecution. Should any fees be due to facilitate the filing of the attached documents, they may be charged to Deposit Account No. 50-0388 (Order No: CISCP100).

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

Haruo Yawata
Limited Recognition under 37 CFR §10.9(b)

P.O. Box 778
Berkeley, CA 94704-0778

Docket #	CISCP100/1156	By:	HY/lr	Date of this mailing:	April 17, 2003
Appl'n #:	09/276,917	Filing Date:	March 26, 1999		
Inv(s)	Kartik S. Chandran				
Title:	NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES				

The following have been received in the U.S. Patent Office on the date stamped hereon:

Item	*Description*	*# Pgs*
1.	Amendment Transmittal w/cert of mailing	1
2.	Amendment A w/cert of mailing and appendix of pending claims and marked up version	8
3.	Grant of Limited Recognition of Haruo Yawata under 37 CFR 10.9(b)	1
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PATENT

OFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chandran, et al.

Attorney Docket No.: CISCP100/1156

Application No.: 09/276,917

Examiner: NGUYEN, DUSTIN

Filed: March 26, 1999

Group: 2155

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

COPY

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Commissioner for Patents, Washington, DC 20231 on April 17, 2003.

Signed: Leslie Russell

Leslie Russell

AMENDMENT TRANSMITTAL

Commissioner for Patents
Washington, DC 20231

Sir:

Transmitted herewith is an Amendment in the above-identified application.

The fee has been calculated as shown below.

	Claims After Amendment		Highest Previously Paid For	Present Extra	Small Entity Rate Fee	Large Entity Rate Fee
Total Claims	29	MINUS	30	00	x 9 =	x 18 = 0.00
Independent Claims	06	MINUS	06	00	x 42 =	x 84 = 0.00
Multiple Dependent Claim Present and Fee Not Previously Paid					$140.00	$280.00
				Total	$	$0.00

☒ Applicant(s) believe that no (additional) Extension of Time is required; however, if it is determined that such an extension is required, Applicant(s) hereby petition that such an extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 500388.

☒ Please charge the required fees, or any additional fees required to facilitate filing the enclosed response, to Deposit Account No. 500388 (Order No. CISCP100).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

/- 晴 晴 大

Haruo Yawata
Limited Recognition under 37 CFR §10.9(b)

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Berkeley, CA 94704-0778

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT

In re application of: Chandran, et al.

Application No.: 09/276,917

Filed: March 26, 1999

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

Attorney Docket No.: CISCP100/1156

Examiner: NGUYEN, DUSTIN

Group: 2154

COPY

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Commissioner for Patents, Washington, DC 20231 on April 17, 2003.

Signed: Leslie Russell

Leslie Russell

AMENDMENT A

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated January 28, 2003, please amend the above-identified patent application as follows:

IN THE CLAIMS:

All pending claims have been reproduced in an Appendix below for the convenience of the Examiner.

Please cancel claim 29 without prejudice.

REMARKS

Claims 1-28, and 30 are pending in the application. Claims 29 has been canceled. Favorable reconsideration of the application, as amended, is respectfully requested.

I. CLAIM OBJECTION

Claim 29 stands objected as not further limiting the claimed invention. Claim 29 has been canceled herein. Withdrawal of the objection is respectfully requested.

Docket #	CISCP100/1156	By:	HY/lr	Date of this mailing:	April 17, 2003
Appl'n # :	09/276,917	Filing Date:	March 26, 1999		
Inv(s)	Kartik S. Chandran				
Title:	NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES				

The following have been received in the U.S. Patent Office on the date stamped hereon:

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1.	Amendment Transmittal w/cert of mailing	1
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chandran, et al.

Attorney Docket No.: CISCP100/1156

Application No.: 09/276,917

Examiner: NGUYEN, DUSTIN

Filed: March 26, 1999

Group: 2155

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

AMENDMENT TRANSMITTAL

Commissioner for Patents
Washington, DC 20231

Sir:

Transmitted herewith is an Amendment in the above-identified application.

The fee has been calculated as shown below.

	Claims After Amendment		Highest Previously Paid For	Present Extra	Small Entity Rate Fee	Large Entity Rate Fee
Total Claims	29	MINUS	30	00	x 9 =	x 18 = 0.00
Independent Claims	06	MINUS	06	00	x 42 =	x 84 = 0.00
Multiple Dependent Claim Present and Fee Not Previously Paid					$140.00	$280.00
				Total	$	$0.00

☒ Applicant(s) believe that no (additional) Extension of Time is required; however, if it is determined that such an extension is required, Applicant(s) hereby petition that such an extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 500388.

☒ Please charge the required fees, or any additional fees required to facilitate filing the enclosed response, to Deposit Account No. 500388 (Order No. CISCP100).

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

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Haruo Yawata
Limited Recognition under 37 CFR §10.9(b)

P.O. Box 778
Berkeley, CA 94704-0778

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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PATENT

In re application of: Chandran, et al.

Application No.: 09/276,917

Filed: March 26, 1999

Title: NETWORK TRAFFIC SHAPING USING TIME-BASED QUEUES

Attorney Docket No.: CISCP100/1156

Examiner: NGUYEN, DUSTIN

Group: 2154

COPY

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Commissioner for Patents, Washington, DC 20231 on April 17, 2003.

Signed: Leslie Russell

Leslie Russell

AMENDMENT A

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated January 28, 2003, please amend the above-identified patent application as follows:

IN THE CLAIMS:

All pending claims have been reproduced in an Appendix below for the convenience of the Examiner.

Please cancel claim 29 without prejudice.

REMARKS

Claims 1-28, and 30 are pending in the application. Claims 29 has been canceled. Favorable reconsideration of the application, as amended, is respectfully requested.

I. CLAIM OBJECTION

Claim 29 stands objected as not further limiting the claimed invention. Claim 29 has been canceled herein. Withdrawal of the objection is respectfully requested.

II. REJECTIONS OF CLAIMS 1-30 UNDER 35 U.S.C. § 103

Claims 1-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,052,375 ("Bass") in view of U.S. Patent No. 5,463,620 ("Sriram"). It is respectfully submitted that the cited references, whether considered alone or in combination, do not render the claimed invention obvious for at least the following reasons.

The claimed invention relates to apparatus/methods for controlling data flow through a network using a plurality of time-based queues. Independent claims 1, 12, 15, 25, 28, and 30 require that "each time-based queue is set to dequeue all of its contents at a separate time." See, for example, page 2, line 21 - page 3, line 2; and page 5, line 24 - page 6, line 10 of the present specification.

As the Examiner concedes in the Office Action, the Bass patent does not teach or suggest the above-identified feature recited in independent claims 1, 12, 15, 25, 28, and 30. The Examiner cited the Sriram patent as teaching that "each time-based queue is set to dequeue all of its contents at a separate time." In this regard, the Examiner cites column 6, lines 20-31 of the Sriram patent. This portion of the patent has been studied and discussed by the Examiner via telephone. It is respectfully submitted that the Sriram patent fails to reasonably suggest the limitation in question.

> The server 48 in effect defines a cycle time period D_c during which it will retrieve cells from all of the queues having cells to send. The server 48 divides the cycle time period into time slices $T_1, T_2, \ldots T_n$, assigns a time slice to each of the queues, and permits each queue to empty cells onto the output link 28 during its respective time slice. The server 48 accomplishes this by visiting each queue in sequence, removing a predetermined number of cells from each queue, and then moving on to remove a predetermined number of cells from the next queue in sequence. All queues are visited within the next cycle time period D_c defined by the server 48. (Sriram, column 6, lines 20-31.)

It is not seen how this passage supports the Examiner's contention that the Sriram patent discloses a system in which a queue is set to dequeue all of its contents at a particular time. The passage does indicate that during a particular time period Dc, a server will retrieve cells from *all* queues having cells to send. However, nothing in the passage suggests that any particular queue will have all of its cells ready to send. Possibly, the Examiner views Sriram's mention of "removing a predetermined number of cells from each queue" (Sriram, column 6, lines 27-28) as meeting the claimed limitation. It is respectfully submitted that removing a predetermined number of cells in no way suggests removing *all* cells. To the contrary, a "predetermined number" suggests a limited number, that is independent of any knowledge of how many cells are in a particular queue at a particular time. Other passages confirm this.

The Sriram patent describes a dynamic time slice (DTS) server. The DTS server 48 withdraws cells from a plurality of queues 32, 34, 36, ... (FIG. 5). As mentioned, the DTS server 48 defines a predetermined cycle time Dc. During this cycle time Dc, the server 48 visits each of the queues 32, 34, 36, ... , withdraws a predetermined number of ATM cells from each queue, and transfers that predetermined number of cells onto an output link 28 (column 5, lines 35-39).

For example, during each cycle time period, the DTS server 48 withdraws thirty cells from the voice queue 32 on the line 33, and sixty cells from CBR video queue 36 on line 37, etc. As described throughout the Sriram patent, the number of the cells withdrawn from each queue during each cycle time is "predetermined" (e.g., column 5, lines 53-56). In most cases, the server 48 continues to visit each of the queues for a plurality of times and each time withdrawing the predetermined number of cells onto the output link 28. See, column 6, lines 31-34, "the server 48 repeats the cycle of visiting each queue ... and removing respective predetermined numbers of cells." In the Sriram patent, no queue "is *set* to dequeue all of its contents" as recited in independent claims. Rather, the Sriram queues are *set* to dequeue a number cells that is wholly independent of the number currently in the queue.

For at least the reasons set forth above, independent claims 1, 12, 15, 25, 28, and 30, and their dependent claims are believed to be patentable over the cited art. Withdrawal of the rejections is respectfully requested.

III. CONCLUSION

Applicants believe that all pending claims are in condition for allowance, and respectfully request a Notice of Allowance at an early date. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 510-843-6200.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

Haruo Yawata
Limited Recognition under 37 CFR § 10.9(b)

P.O. Box 778
Berkeley, CA 94704-0778
Tel: 510-843-6200

APPENDIX – CLEAN VERSION OF PENDING CLAIMS

1. (Previously Amended) An apparatus for controlling data flow through a network, the apparatus comprising:

one or more processors;

memory coupled to at least one of the one or more processors; and

a plurality of time-based queues logically configured on the memory and together defining a period of time with each time-based queue defining a separate increment of time within the period of time, whereby each time-based queue is set to dequeue all of its contents at a separate time,

wherein the processor is configured or designed to direct (i) data or (ii) grants to transmit data to particular time-based queues based upon network traffic shaping delays prescribed for the data or grants to transmit the data.

2. The apparatus of claim 1, wherein the apparatus is a router.

3. The apparatus of claim 1, wherein the apparatus is a cable modem termination system.

4. The apparatus of claim 1, wherein the separate increments of time defined by the time-based queues are each of the same length.

5. The apparatus of claim 1, wherein the separate increments of time defined by the time-based queues are configurable.

6. The apparatus of claim 1, wherein the period of time defined by the plurality of time-based queues are configurable.

7. The apparatus of claim 1, wherein the one or more processors are further configured or designed to determine network traffic shaping delay.

8. The apparatus of claim 1, wherein the one or more processors are further configured or designed to discard data or a request to grant transmission of data if a network traffic shaping delay is greater than the period of time defined by the plurality of time-based queues.

9. The apparatus of claim 1, wherein the one or more processors are further configured or designed to transmit, without buffering in a time-based queue, the data or issue grants to transmit data if there is no network traffic shaping delay.

10. The apparatus of claim 1, wherein the one or more processors are further configured or designed to direct network packets of varying sizes to the time-based queues.

11. The apparatus of claim 1, wherein the apparatus is configured or designed to simultaneously buffer, in a single time-based queue, data or grants to transmit data from a plurality of network nodes.

12. (Previously Amended) An apparatus for controlling data flow through a network, the apparatus comprising:

traffic shaping means for determining how long to buffer data or grants to transmit data; and

buffering means for buffering the data or grants to transmit data in a plurality of time-based queues together defining a period of time, with each time-based queue defining a separate increment of time within the period of time, whereby each time-based queue is set to dequeue all of its contents at a separate time.

13. The apparatus of claim 12, wherein the traffic shaping means also directs the data or grant to transmit data to particular time-based queues based upon a determined length of time for buffering.

14. The apparatus of claim 12, further comprising a policing means for determining whether to buffer the data or grants to transmit data.

15. (Previously Amended) A method of controlling data flow through a network, the method comprising:

determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

16. The method of claim 15, further comprising receiving data addressed to the network node prior to determining that transmitting additional data will or will likely exceed the maximum allowed data flow, and wherein the data addressed to the network node is the additional data.

17. The method of claim 15, further comprising receiving data sent by the network node prior to determining that transmitting the additional data will or will likely exceed the maximum allowed data flow, and wherein the data sent by the network node is the additional data.

18. The method of claim 15, further comprising calculating a network capacity used by the network node if the additional data was to be transmitted, the calculation being performed prior to determining that transmitting the additional data will or will likely exceed the maximum allowed data flow.

19. The method of claim15, further comprising determining a delay until the additional data can be transmitted, wherein the determined delay is used to select the time-based queue.

20. The method of claim 19, wherein the time-based queue is selected by matching its time to dequeue with the delay determined for the additional data.

21. The method of claim 15, further comprising:

dequeuing the additional data; and

transmitting the additional data without exceeding the maximum allowed data flow for the network.

22. The method of claim 15, further comprising:

receiving new data that does not form part of the additional data;

determining that transmitting the new data will or will likely exceed the maximum allowed data flow;

determining a delay until the new data can be transmitted without exceeding the maximum allowed data flow for the network node; and

determining that the delay is sufficiently long that the new data is discarded without buffering in the time-based queues.

23. The method of claim 15, wherein the separate increments of time defined by the time-based queues are each of the same size.

24. The method of claim 15, wherein the increments of time defined by the time-based queues are configurable, and wherein the period of time defined by the plurality of time-based queues is configurable.

25. (Previously Amended) A computer program product comprising a machine-readable medium on which are stored program instructions for controlling data flow through a network, the program instructions comprising:

determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

26. The computer program product of claim 25, further comprising program instructions for calculating a network capacity used by the network node if the additional data was to be transmitted, the calculation being performed prior to determining that transmitting the additional data will or will likely exceed the maximum allowed data flow.

27. The computer program product of claim 25, further comprising program instructions for:

receiving new data that does not form part of the additional data;

determining that transmitting the new data will or will likely exceed the maximum allowed data flow;

determining a delay until the new data can be transmitted without exceeding the maximum allowed data flow for the network node; and

determining that the delay is sufficiently long that the new data is discarded without buffering in the time-based queues.

28. (Previously Amended) A computer program product comprising a machine readable medium on which is provided program instructions for controlling data flow through a network, the program instructions comprising:

program code for determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

program code for selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

program code for buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.

29. (Canceled)

30. (Previously Amended) An apparatus for controlling data flow through a network, the apparatus comprising:

means for determining that transmitting additional data to or from a network node will or will likely exceed a maximum allowed data flow for the network node;

means for selecting one of a plurality of time-based queues that together define a period of time, with each time-based queue defining a separate increment of time within the time period, whereby each time-based queue is set to dequeue all of its contents at a separate time associated with its increment of time; and

means for buffering the additional data or a grant to transmit the additional data in the selected one of the plurality of time-based queues.